

Date: Monday, 5/1/2006 4:23:24 PM
User: Kim Johnston

Process Sheet

20

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SHORT STEP ASSEMBLY
Job Number : 26911
Estimate Number : 11672
P.O. Number : N/A Part Number : D350591121
This Issue : 5/1/2006 S.O. No. : N/A Drawing Number : D2351 REV E
Prsht Rev. : NC Project Number : N/A
First Issue : N/A Type : LARGE FAB ASSY Drawing Revision : E
Previous Run : 25388 Material : N/A
Due Date : 5/20/2006 Qty: 5 Um: Each
Written By : *See COMMENT BELOW*
Checked & Approved By : *06.05.02 N*
Comment : Est Rev: E 02.10.21 Re-format; Incorporated D2351-041 IPP K
J/RF
est rev. F 06.02.23 added grinding EC

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121CHG003

KJ 06-05-10 (5)

2.0 D2244116 Step Extrusion



Comment: Qty.: 0.5000 Each(s)/Unit Total: 2.5000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-128 Extrusion

B20457 (1) / B23404 (4)

FF 06-05-11

3.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

FF 06-05-11

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

FF 06-05-15

3-Deburr

FF 06-05-15

4.0 BENDING BENDING MACHINE



Comment: BENDING MACHINE

Bend per Dwg D2351 using Bend Program D23561dD FT011

DP 06-6-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Description :

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DE 06-06-09 (5)

6.0

D28501

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number Description Batch
1 D2850-1 End Bracket *39906*

DE 06-06-09 5

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

DE 06-06-09 5

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig BT8033
A/R Aluminum Rod *M19173*

DE 06-06-10 5

3-Do not Grind Flush

DE 06-06-10 5

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.13

HM 06/06/14

9.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DE 06-06-15 5

10.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number Description Batch
1 D2582 Step Leg Assy *B25395*

DE 06-06-16 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06-06-13	7.1	QC S/S Add 5 permanent change		2006-13 / 12/30/04/13	5		

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QA: N/C Closed: _____ Date: _____

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Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total : 80.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

M13767

SE. 06.06.16 5

12.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

SE. 06.06.16 5

13.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06-06-16 5

14.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

B.25396

SE. 06.06.16 5

15.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod

M19173

2-Grind end cap flush per dwg D2351

SE 06.06.16 5

16.0

QC5/19

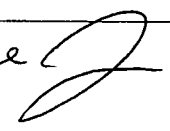
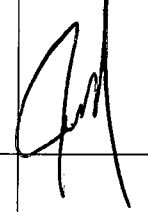
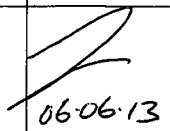
INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06/06/16 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06-06-13	16	Add Qc 9 to Qc 5. Permanent change 					 06-06-13	

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Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

DL 06/06/19 (5)

18.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

DL 06/06/19 (5)

19.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch: m101266

FC 06 06 19 (5)

20.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DL 06/06/19 (5)

21.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

22.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing KitQty Part Number

Description Batch

1 D2230-1 Mounting Lug

B24569 1m (B)

B23724 3m (B)

B25554 1m (B)

23.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Packing KitQty Part Number

Description Batch

1 D2230-3 Mounting Lug

B26593

W/O:		WORK ORDER CHANGES					
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Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 3.0000 f(s)

Pick:

Packing KitQty Part Number Description Batch

1 D2856-400 7.20" Abrasion Strip B25656 ✓

25.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 AN3-37A Bolt B2 M13719 ✓

26.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 AN4-13A Bolt M101149 ✓

27.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

4 AN960JD10 Washer M100743 ✓

28.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 30.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

6 AN960JD416 Washer M100575 ✓

29.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 MS21042L3 Nut (or -3) M100393 ✓

W/O:		WORK ORDER CHANGES					
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Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

30.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 15.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

3 MS21042L4 Nut (or -4) M19085

AP 06/06/19 (5)

31.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

AP 06/06/19 (5)

32.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-121

Location:

PPP Rev:

AP 06/06/19 (5)

33.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

SP 06/06/19 (5)

Job Completion



U 06-06-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

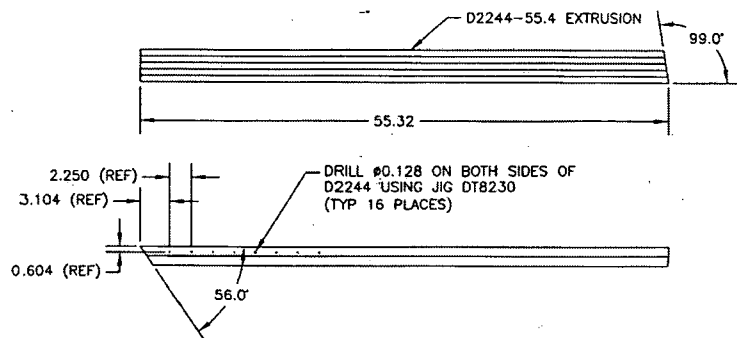
*cut per drawing

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 26911

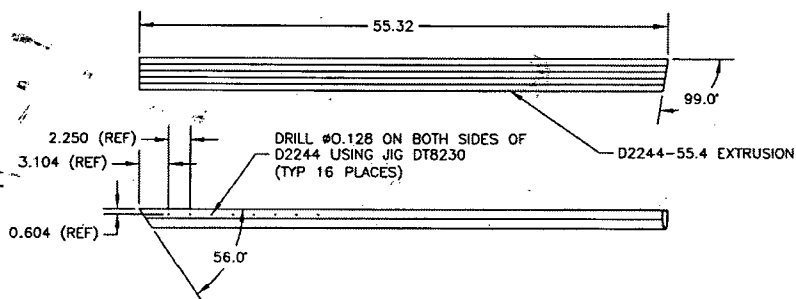
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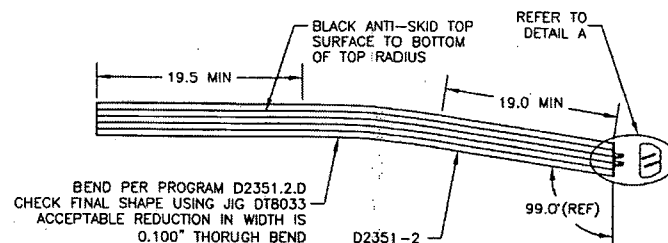
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



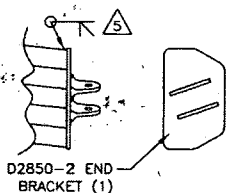
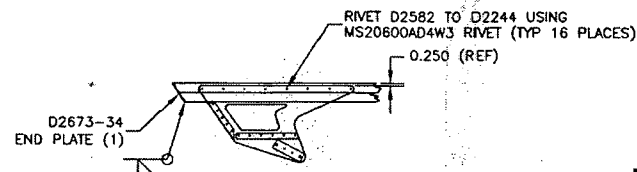
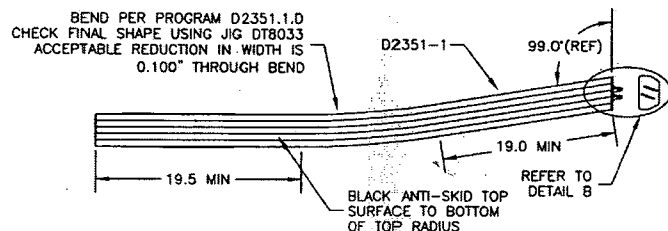
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



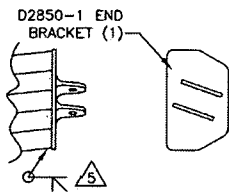
D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

D2582 STEP LEG ASSEMBLY (1)

GENERAL NOTES

- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- △ CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

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DESIGN

KE

CHECKED

#

DATE

05.11.14

DRAWN BY

PH

APPROVED

#

DART

DART AEROSPACE LTD.
HARRISBURG, ONTARIO, CANADA

DRAWING NO.

D2351

TITLE

HIGH FLOAT STEP ASSEMBLY

REV. E

SHEET 2 OF 2

SCALE

1:12

RELEASED
05.11.28

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RETURN TO
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WORK ORDER
NO. 26911

